

### REMARKS

No claims have been added. Claims 1 and 10 are amended to recite the features of claim 5 and 14 respectively. Claims 5 and 14 are cancelled. Upon entry of this amendment, claims 1-4, 6-13 and 15-18 will be pending in the application.

This amendment is being filed with a Request for Continued Examination under 37 C.F.R. 1.114. This Response and amendment is the submission required under these Rules.

As amended, claim 1 recites:

A bonding apparatus for a wire bonding machine comprising:

a bonding tool coupled to an ultrasonic transducer, said transducer comprising:

a giant magnetostrictive element,  
a fastener for holding the giant magnetostrictive element under mechanical pressure,  
a first field generator for providing a magnetic bias field,  
a second field generator for providing a magnetic drive field,  
and

a magnetic circuit for channelling the magnetic fields in the giant magnetostrictive element, wherein said giant magnetostrictive element is a composite comprising two or more rare-earth-based alloy parts separated from one another by a layer of passive polymeric material.

As amended, claim 10 recites:

A bonding apparatus for a wire bonding machine comprising:

a horn having a bonding tool at a smaller end and a mounting collar at an opposite end, and

an ultrasonic transducer coupled to the horn and comprising a giant magnetostrictive element, a fastener for holding the giant magnetostrictive element under mechanical pressure, a first field generator for providing a magnetic bias field, a second field generator for providing a magnetic drive field, and a magnetic circuit for channelling the magnetic fields in the giant magnetostrictive element,

wherein the giant magnetostrictive element is a composite comprising two or more rare-earth-based alloy parts separated from one another by a layer of passive polymeric material.

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Amended claims 1 and 10 are patentable because none of the references put forth by the Examiner in the previous Actions (including Wright US 3,852,999 and/or Hansen US 6,624,539) disclose, teach or suggest a magnetostrictive element comprised of "two or more rare-earth-based alloy parts separated from one another by a layer of passive polymeric material." As such, none of the Examiner's references provide a basis for finding the present claims anticipated or obvious.

As discussed in previous Responses, the Examiner has admitted that Hansen did not specifically disclose a magnetostrictive element comprised of "two or more rare-earth-based alloy parts separated from one another by a layer of passive polymeric material." (See Official Action dated 5/18/05, page 3) Wright also fails to disclose, teach or suggest the magnetostrictive element comprised of "two or more rare-earth-based alloy parts separated from one another by a layer of passive polymeric material" recited in the present claims. Moreover, neither reference suggests the desirability or provides the motivation to modify the teachings to achieve Applicant's bonding apparatus as claimed. Because neither reference teaches or suggests all of the features recited in the claims, the claims are neither anticipated nor obvious.

Regardless of the Examiner's unsupported contention that selection from known materials is within the skill expected of the routineer, the Examiner provided no technical reasoning or explanation that would lead the routineer to choose a magnetostrictive material comprised of two or more rare-earth-based alloy parts

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separated from one another by a layer of passive polymeric material. The burden is on the Examiner to "present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." MPEP § 2143; *Ex parte Clapp*, 277 USPQ 972, 973 (BPAI 1985). See also *In re Fine*, 837 F.2d 1071, 5 USPQ 2d 1596 (Fed. Cir. 1988)(reversing the examiner and the Board). *In re Fine* makes clear that it is not enough for the Examiner to state that modifications of the prior art to meet the claimed invention were within the ordinary skill of the art without providing support or explanation for this conclusion.


Because none of the previously cited references, either alone or in combination, disclose, teach or suggest each and every element recited in the present claims, there is no basis for finding the claims either anticipated or obvious.

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**For all the foregoing reasons**, reconsideration and allowance of claims 1-4, 6-13 and 15-18 is respectfully requested.

Respectfully submitted,

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